



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/560,675

02/23/2007

Frederik Gorges

IHN.093.WUS

2319

10888 7590 12/23/2010  
Hollingsworth & Funk  
8500 Normandale Lake Blvd., Suite 320  
Minneapolis, MN 55437

EXAMINER

BLAIR, KILE O

ART UNIT

PAPER NUMBER

2614

MAIL DATE

DELIVERY MODE

12/23/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/560,675	GORGES ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kile Blair	2614	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 January 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 11-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 11-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This Office action is in response to the communication filed 1/26/10. Claims 1-8 and 11-22 are pending. Claims 9 and 10 are canceled.

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/26/10 has been entered.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7, 19, and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The meaning of claim 1 is unclear because the recitation of "and an adaptive threshold, at least two thresholds." Claims 2-7, 19, and 20 are rejected for incorporating the errors of the claim on which they depend.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4-8, and 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Lynn (US 5070527).

Regarding claim 1, Lynn teaches a method comprising: receiving at a dynamic range controller having an audio signal input (12, fig. 2), an audio signal output (22, fig. 2), a power control (14, fig. 2), and an adaptive threshold, at least two thresholds (initial and subsequent threshold, col.4, lines 37-42), wherein a first threshold is a maximum power level for short time interval operation (initial threshold, col.4, lines 37-42; 99 dB, fig. 1B) and a second threshold is a maximum power level for long time interval operation of an electro acoustic transducer (subsequent threshold, col.4, lines 37-42; 87-91 dB, fig. 1B), and the short time interval and the long time interval operations are independently controlled (fig. 3); detecting the power of the audio signal input continuously (fig. 3); short term controlling the power of the audio signal output wherein the power of the output is reduced to said maximum power level for short time interval operation, if the detected power of said audio signal input exceeds said maximum power level for short time interval operation (initial threshold, col.4, lines 37-42; 99 dB, fig. 1B); and long term controlling the power of the audio signal output wherein the power of the output signal is reduced to said maximum power level for long time interval

Art Unit: 2614

operation, if the detected power of said audio signal input exceeds said maximum power level for long time interval operation, for a predetermined time period (subsequent threshold, col.4, lines 37-42; 87-91 dB, fig. 1B), wherein said long term control overrides said short term control (at time G, acoustic output is decreased to the low threshold {i.e. maximum power level for long time interval operation} even though output signal remains high enough to trigger high threshold, fig. 3).

Regarding claim 2, Lynn teaches a method according to claim 1, wherein of said long term controlling of the power of the signal is performed at a speed depending from the difference in power between said detected input signal and said maximum power level for long time interval operation (slope of curve in the 50-70ms period in fig. 1B is based on difference between to levels, fig. 1B).

Regarding claim 4, Lynn teaches a method according to claim 1, wherein said long term control comprises a smooth reduction of said output power level (slope of curve in the 50-70ms period in fig. 1B, fig. 1B).

Regarding claim 5, Lynn teaches a method according to claim 1, wherein said long term control comprises a time interval controlled smooth reduction of said output power level (slope of curve in the 50-70ms period in fig. 1B, fig. 1B).

Regarding claim 6, Lynn teaches a method according to claim 1, wherein said short term control comprises an immediate reduction of said output power level (slope of curve in the 50-70ms period in fig. 1B, fig. 1B).

Regarding claim 7, Lynn teaches a method according to claim 1, wherein said power control comprises a digital power control having a digital control range and an

Art Unit: 2614

analog power control having an analog power control range, wherein said signal volume is controlled analogously at signal levels lower than the control range of said analog control, and said signal power is controlled digitally at signal levels higher than the control range of said digital control, and wherein the power control ranges of said analog and digital controls are not overlapping (comparator output, fig. 3).

Claims 8, 11, and 14 are each substantially similar to claim 1 and are rejected for the same reasons.

Regarding claim 12, Lynn teaches dynamic range control according to claim 11, further comprising a soft switch to slowly control the transition of the power of the output signal from being substantially equal to said maximum power level for short time interval operation to at most being substantially equal to said maximum power level for long time interval operation (transition from G to H, fig. 3).

Regarding claim 13, Lynn teaches a dynamic range control according to claim 11, further comprising a timer element to operate said long term control in a timer controlled way (attack/decay timer 30, fig. 2).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynn.

Regarding claim 15, Lynn teaches an electronic audio device according to claim 14

Although Lynn does not explicitly teach the feature wherein the electronic audio device further comprises a digital audio signal source and an analog audio output, doing so would have been obvious to one of ordinary skill in the art with the motivation of using the device with digital audio signals.

Regarding claim 16, Lynn teaches an electronic audio device according to claim 14

Although Lynn does not explicitly teach the feature wherein the at least one input to receive at least two thresholds is implemented by an integrated circuit implemented in a connector of said electro acoustic transducer, doing so would have been obvious to one of ordinary skill in the art with the motivation of using the device with digital audio signals.

Regarding claims 17 and 18, Lynn teaches the electronic audio device of claim 14.

Although Lynn does not explicitly teach the feature wherein the electronic audio device is a cellular telephone, Lynn teaches the use of the system with a telephone and it would have been obvious to one of ordinary skill in the art to use the system with a cellular telephone since the results would have been predictable.

Regarding claims 19 and 20, Lynn teaches a method according to claim 1.

Although Lynn does not explicitly teach the feature wherein thresholds are received for more than one electro acoustic transducer and performing the method for each electro acoustic transducer for which thresholds are received, doing so would have been obvious with the motivation of customizing the system to suit the characteristics of various speakers.

Claims 3 and 21 are each substantially similar to claim 19 and are rejected for the same reasons.

Regarding claim 22, Lynn teaches the electronic audio device of claim 14.

Although Lynn does not explicitly teach the feature wherein said thresholds are retrieved from a database storing thresholds for electro acoustic transducers, doing so would have been obvious with the motivation of customizing the system to suit the characteristics of various speakers.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-8 and 11-22 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kile Blair whose telephone number is (571) 270-3544. The examiner can normally be reached on Monday-Friday.



Art Unit: 2614

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KB

/VIVIAN CHIN/

Supervisory Patent Examiner, Art Unit 2614